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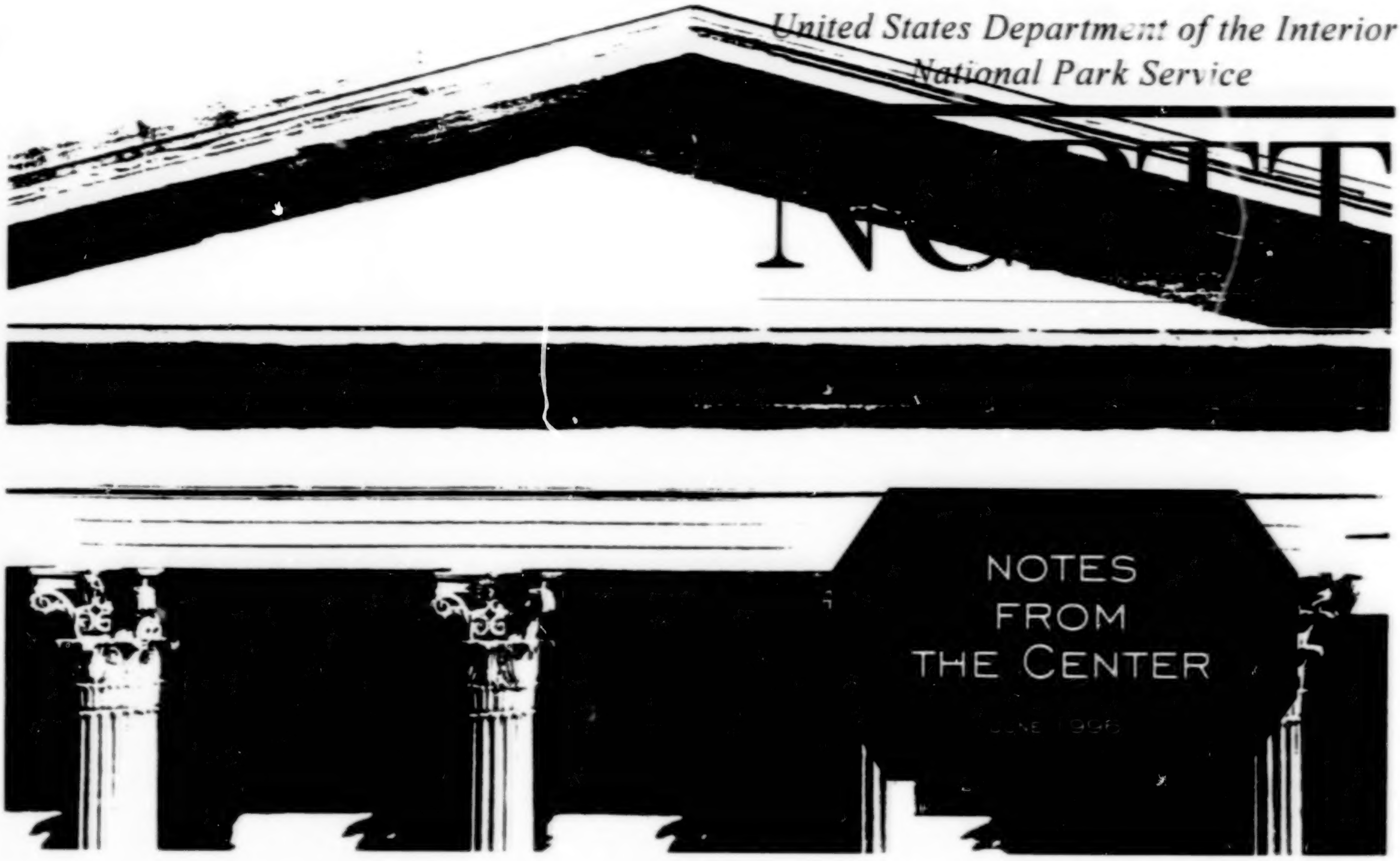
United States Department of the Interior
National Park Service



NOTES FROM THE CENTER

JUNE 1996

FROM THE EDITOR

The principle articles in this edition of ***Notes*** focus on the deterioration and preservation of stone, and the activities of NCPTT's Materials Research Program. The Center is continuing to develop the NCPTT Environmental Exposure Chamber Facility on the Northwestern State University campus, in close collaboration with the NSU's Division of Math and Science and Department of Chemistry. Under a new **Research and Researchers** heading, this edition of ***Notes*** presents the work of **George S. Wheeler**. Research by Elaine McGee is presented in the regular Materials Research Program Column. Also included is a review of a new book by Clifford A. Price, ***Stone Conservation, An Overview of Current Research***, published by the Getty Conservation Institute.

As the Center continues to focus on research activities in areas of pressing preservation need, the Materials Research Program will continue to be at the forefront of studies on deterioration of materials caused by air pollution. We look forward to developing and reporting on new projects in the future.

As a special feature following the recent Spring meeting of the Center's advisory board – the Preservation Technology and Training Board – this edition of ***Notes*** includes as centerfold supplement the text of a public lecture on the occasion of the PTTBoard meeting: ***Cultural Landscape Stewardship-The Gorge of the Columbia River***, by **Jonathan L. Doherty**.

– *Mary F. Striegel*

Comments and items of interest for the next newsletter should be sent to the editor of the upcoming ***Notes***, John Robbins.

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THE CENTER

The National Historic Preservation Act Amendments of 1992 established the **National Center for Preservation Technology and Training** at Northwestern State University of Louisiana in Natchitoches.

The Center and its advisory board - the **Preservation Technology and Training Board** - were organized throughout 1993 and 1994, and the Center's charter staff arrived in Natchitoches by January 1995.

The Center is an interdisciplinary effort by the **National Park Service** to advance the practice of historic preservation in the fields of archeology, historic architecture, landscapes, materials conservation, and history. The Center's mission is implemented through its three components – research, training, and information management.

The Center's **research** component emphasizes innovative, practical solutions to current preservation and conservation questions.

The Center's **training** component emphasizes preservation skills enhancement, life-long learning at all levels of preservation practice, and continuing education for preservation professionals.

The Center's **information management** component emphasizes cultural resources data management and information distribution that is innovative and appropriate for the electronic age.

RESEARCH AND RESEARCHERS

This article begins an occasional series that highlights the careers of people who provide fundamental scientific understanding through research in the field of preservation practice in the United States.

George Segan Wheeler is a research chemist in the Sherman Fairchild Center for Objects Conservation of the Metropolitan Museum of Art where he has worked since 1979. He spent a year with Dr. Clifford Price at the Building Research Station in England studying alkoxysilanes for stone conservation.

Wheeler received his undergraduate degree in art history with minors in physics and mathematics at Muhlenberg College, Allentown, Pennsylvania. It was, in fact, the course distribution requirements of the liberal arts education proffered at Muhlenberg that sparked his interest in art history. While majoring in physics he took a course in 19th and 20th century art history and at the time "didn't know Van Eyck from Van Gogh." The effect of the course was so great that he changed majors and went on to receive a master's degree in art history from Hunter College of the City University of New York. He later entered New York University's Institute of Fine Arts Conservation Center, where he received a masters degree as an art conservator which brought together his interests in art and science. In addition, he received a Ph.D. in chemistry also at NYU working with Dr. Seymour Lewin.

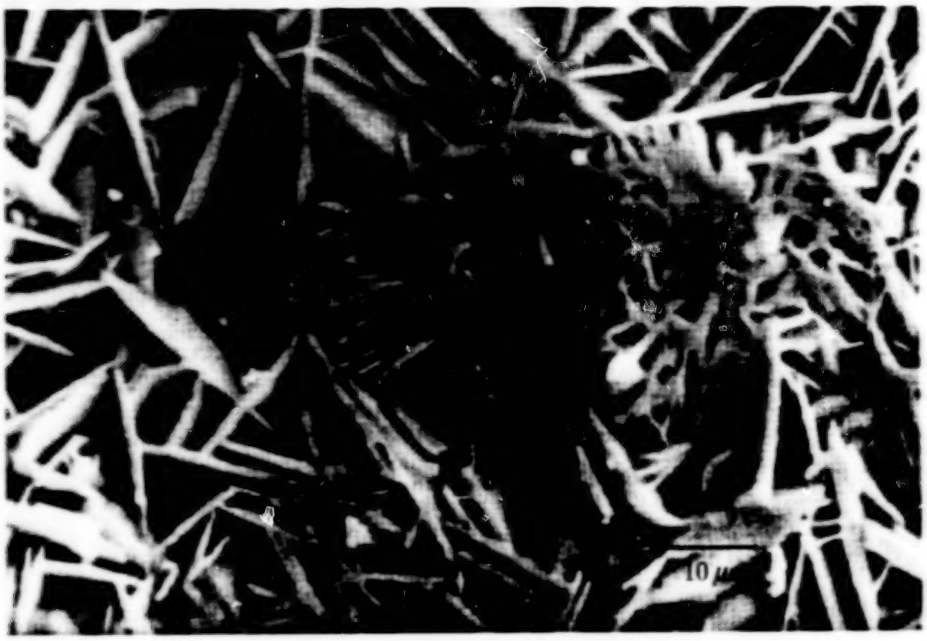
Wheeler's research has focused on the consolidation of deteriorated stone using alkoxysilanes. His work attempts to connect the widely varying performance of chemical consolidants with the mineralogy of the stones undergoing consolidation. Generally, carbonate rocks, like limestone or marble, experience lower increases in certain mechanical properties than siliceous rocks, such as sandstone, when consolidated with alkoxysilanes. He ascribes these differences to the lack of adhesion between alkoxysilane gels and calcite, an adhesion which is present with minerals such as quartz. His is collaborating currently with Dr. C. Jeffrey Brinker, a leader in solgel science, at the Sandia National Laboratories in Albuquerque. They are attempting to develop alkoxysilanes with better adhesion to calcite. Also, Wheeler recently received a National Science Foundation Grant for collaboration with Mexico for the development of consolidants for limestone. In addition to his research Wheeler is Adjunct Professor of Conservation at NYU's Conservation Center and is a frequent lecturer at conferences and other conservation training programs. Also, he is Consulting Director of Research in Building Conservation Associates, Inc., an architectural preservation firm.

Wheeler was recently awarded a Rome Prize from the American Academy in Rome. He will spend six months next year in Rome studying Italian approaches to the cleaning and consolidation of marble. His book, co-authored by Elizabeth Goins Stevenson, is entitled *Alkoxysilanes and Stone Consolidation* and will be published by the J. Paul Getty Trust in 1997.

MATERIALS RESEARCH PROGRAM

This article in the Materials Research Program series features the work of Elaine McGee, a geologist at the United States Geological Survey. Elaine specializes in mineralogy and petrology and has used these skills to characterize stone samples before and after exposure at National Acid Precipitation Assessment Program (NAPAP) field test sites (see Notes, *issue 11).*

Elaine McGee began studying the deterioration of stone when she joined NAPAP in 1984, to help with the mineralogical characterization of stone used in exposure sites under the Program. Since then she has been involved with a number of Program projects, including most recently the characterization of alteration crusts on the Cathedral of Learning, Pittsburgh (see Notes, issue 7). In addition to her work with the NCPTT, McGee is working with the National Park Service on preservation projects at the Jefferson and Lincoln Memorials in Washington, DC.



A micrograph showing a typical crystal structure of gypsum.

The Center's **Materials Research Program** emphasizes research on the effects of acid rain and air pollution on calcareous stone. Limestone and marble contain calcite and are used in the construction of buildings, monuments, and carved stone ornament. These materials suffer from exposure to air pollution, and in particular acid rain.

In order to understand the effects of pollution on marble and limestone, we must first be able to characterize the stones involved. Only then can we begin to develop effective treatment schemes and preventative maintenance strategies.

Within the subgroup of stones called marble or limestone, there are actually many different individual stones. Variations are a result of their geological formation and are manifested by slightly different chemical compositions, inclusions, porosities, and physical properties, among others. These differences can affect the way pollutants interact with the surface of the stone and greatly affect its weathering characteristics. They also affect ways water and pollutants are carried into the stone. Both the nature and rate of decay of the stone is affected by the physical and chemical differences.

Elaine McGee uses the tools of her trade — visual, optical, and scanning electron microscopy — to analyze test samples in the form of "briquettes" for the NAPAP field test sites. Briquettes are first characterized before exposure so that baseline information is obtained. McGee describes the chemical composition, the grain size and distribution, the type of inclusions, and the amount of metamorphosis (recrystallization) of the briquettes. For example, inclusions in marble can occur as isolated grains or as clusters that form streaks or swirls of contrasting color in a stone. Mineral inclusions weather differently than calcite. Boundaries between grains and inclusions may also permit easier penetration of water into the stone than inclusion-free areas. Grain size and texture of the marble reflect its formation; weakly metamorphosed stone will have a range of grain sizes and shapes, resulting in a loose texture with many inclusions, whereas more strongly metamorphosed marble will be tightly compacted and the recrystallized calcite will be tightly interlocked.

McGee's work continues after the briquettes have been exposed to the outdoor environment at the NAPAP field test sites. Sample briquettes of Salem limestone from Indiana and Shelburne Marble from Vermont were exposed in the field according to a site management plan issued by the National Park Service in 1984. After exposure of the briquettes at periods ranging from months to a maximum of ten years, the briquettes were again examined. A variety of changes in the briquettes were seen including discoloration on their groundward surfaces. After one-year and two-year exposures a gypsum-rich "spot" developed on the sheltered underside of the briquettes. Only calcite was detected on the upper surfaces of the samples. McGee's observations have been used by other principal investigators within the Materials Research Program to develop models in attempt to explain this phenomena.

Examination of alteration crusts from historic buildings also are part of McGee's contribution to the Materials Research Program. Alteration crusts from marble buildings such as the Merchant's Exchange Building in Philadelphia (built 1832) and the Lincoln Memorial in Washington, DC (built 1922) were examined using X-ray diffraction analysis and scanning electron microscopy. These alteration crusts consist of gypsum plus dirt trapped by the network of gypsum crystals that covers the stone. The most striking difference between the gypsum spots seen on building alteration crusts and those found on the NAPAP briquettes is their visual appearance. The color, abundance of particulates, and thickness of the crusts all contribute to their appearance. These characteristics arise from different lengths of exposure. Building alteration crusts range from soft, easily scraped beige and light orange accumulations to tough black accumulations. Alteration crusts found on briquettes tended to be lighter in color and contained more particulate matter when exposed to urban environments. The dark crusts have a much greater abundance of dirt particulates compared to the light crusts.

From her studies, McGee has identified four factors important in the formation and development of gypsum alteration crusts on marble and limestone. These factors include pollution levels, exposure to rain or washing, geometry of exposure, and permeability of the stone. NAPAP field test briquettes show that stone exposed to urban environments with higher pollution levels develop alteration crusts before they are seen at

other sites. Briquettes exposed at urban sites have the most extensive crusts. Exposure to rain affects the crusts because gypsum is more soluble in water than calcite. Because of this, gypsum tends to be washed off surfaces that are exposed to rain, and is deposited under sheltered surfaces. The geometry of the stone surface affects the formation of crusts because it affects the flow or drip paths for water. Stones that permit moisture to move more readily through the stone allow for sulfate to penetrate between grain boundaries and may lead to a greater penetration of the gypsum crust and hence a more severely damaged stone.

Currently McGee is working closely with Cliff Davidson to characterize alteration crusts found on the Cathedral of Learning. Analysis of types of particulates in the alteration crusts may lead to a better understanding of the pollution sources affecting the Cathedral. McGee is also author of a recent booklet ***Acid Rain and Our Nation's Capital: A Guide to Effects on Buildings and Monuments***, which is now available to the general public at the Earth Science Information Centers (or 1-800-USA-MAPS). This publication is an excellent resource for secondary school educators for teaching environmental and preservation issues.

For more information regarding this work, contact –

Elaine McGee
U.S. Geological Survey
12201 Sunrise Valley Drive, MS
Reston, VA 22092

– Mary F. Striegel

BOOK REVIEW

C. A. Price
Stone Conservation, An Overview of Current Research
Los Angeles: The Getty Conservation Institute, 1996.
$25.00, softcover. ISBN 0-89236-389-4.
Available from the Getty Trust Publications Distribution Center, P.O. Box 2112-DPT GSM6, Santa Monica, CA 90407, 800/223-3431.

Our cultural heritage is composed of many works made from stone. Much of this heritage is located in an outdoor environment and ultimately suffers from ravages of time and the elements. One has but to look in any local community to see signs of stone deterioration. It is found in the facades of government buildings and in the tombstones of early graveyards. It is evidenced in the presence of distracting black crusts on the surfaces of our monuments.

Stone conservation is a field that studies the deterioration and consequent treatment of stone used in cultural works. The proper treatment of deteriorated stone has been an ongoing debate for years. As early as 1861 the use of "silicic ether" was suggested to arrest stone decay on the Houses of Parliament in England.

This book looks at research within the field of stone conservation that has been published within the last five years. Rather than a comprehensive, state-of-the-art review, Dr. Clifford A. Price, at the Building Research Station in England, has written and presented an admirable overview of the current status of this research. The slim volume, 73 pages in all, contains five chapters dedicated to understanding stone decay, surveying treatments, assessing the effectiveness of treatments, shaping conservation policy, and increasing the effectiveness of research. The work is filled with 240 useful bibliographic references.

Price, an acknowledged authority in the field of stone conservation, presents a clearly written account of issues to be addressed by researchers within the field and states his own opinions of directions that this research should go. Chapters one and two provide a simple, but technically sound, account of research into the causes of stone decay and the approaches that have been used to treat deteriorating stone. His sometimes critical review of the research and suggestions for improvement are thought provoking. For example, during discussion of the use of alkoxysilanes in chapter two, Price states "although the literature contains many papers describing the use of silanes on stone, there are very few that even attempt to come to grips with the underlying chemistry or the associated solgel technology. One gets the uncomfortable impression that few conservation scientists have the ability to utilize the extensive chemical literature in this area and that is preventing the transfer of valuable knowledge to the field of conservation."

The question of retreatment is another issue raised by Price in chapter four, during the discussion of conservation policy. While conservators pay homage to the principle of reversibility – treatments should be reversible without damaging the materials – within the field of stone conservation this is more of an ideal than a reality. Price feels that the emphasis should be focused instead on "retreatability". Little research has been done to explore the use of newer treatments on previously treated stone.

Chapter five of the book discusses problems with the effectiveness of research in the field. Price clearly feels that one of the greatest problems is the dissemination of the information within the field through publications, conferences and training programs. He raises the question of non-peer reviewed publications, such as conference proceedings, as being responsible for a certain lack of quality in the published literature. One suggestion for improvement that Price offers is the publication of scholarly state-of-the-art review articles. "Review articles would enable researchers to put their work in context and see where further work was worthwhile."

This book is recommended reading for anyone who wishes to pursue the development of research ideas within the field of conservation. In addition, it is easily accessible information that may be enjoyed by scientists and non-scientists alike.

– Mary F. Striegel

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This is the fourth in a regular series of columns on the Internet. This article discusses several of the many preservation-related World Wide Web sites. In future issues other interesting sites will be highlighted. If you have suggestions for Internet-related topics that you would like to see discussed in this column or if you *have a question about matters addressed here, please contact the Center via e-mail or regular mail.*

A wealth of information is available to the public and to preservation professionals on World Wide Web sites. Three of the most commonly used and best known sites in archeology, materials conservation and architectural preservation are described here. Obviously, to get the full impact of any World Wide Web site, one must visit and explore. All three of these sites are listed in *Internet Resources for Heritage Conservation, Historic Preservation, and Archeology* discussed on page 6 in this issue of ***Notes***.

ArchNet

ArchNet
http://spirit.lib.uconn.edu/ArchNet/ArchNet.html

ArchNet, based at the **University of Connecticut** and developed and maintained by **Thomas Plunkett and Jonathon Lizee**, is geared toward Internet users with an interest in archeology. Information is well-organized and categorized by both geographic region and subject. The primary categories include Academic Departments, Archaeological Regions, Museums on the Web, Subject Areas, Other Resources, and News and System Information. Within these areas, there are links to university departments world wide, government agencies, SHPOffices and sites relating to specialized topics such as archeometry, ceramics, geoarcheology, lithics, mapping and GIS and more. Full text of preservation-related legislation is also available. Finally, the Archaeological Fieldwork Server provides information about field schools and opportunities for volunteers and paid workers.

ArchNet is available in five languages: English, Dutch, French, German, and Spanish. Links can be chosen via images or through the Table of Contents. In addition, a text-only version is available. Users with slow connections, text-only Web browsers, or those who simply prefer the simplicity of a home page without graphics will appreciate this.

CoOL

Conservation OnLine [CoOL]
http://palimpsest.stanford.edu

CoOL, based at **Stanford University** and developed and maintained by **Walter Henry**, is targeted for Internet users involved in "...conservation of library, archives and museum materials." Conservation OnLine was established in 1993 and contains an extensive amount of conservation-related information including "grey literature", documents not published in standard venues such as in-house reports and workshop and conference handout materials. The site is organized using the following categories: News, Finding People, Conservation Topics, Organizations, Misc. Reports and Documents, and Other Tools and Resources. "Finding People" allows users to search for people involved in conservation using the directory created by CoOL or by linking to other directories on the Internet such as the Worldwide E-mail Directory of Anthropologists (WEDA). "Conservation Topics" include Digital Imaging, Education and Training opportunities in Conservation, Ethics, Health and Safety, Pest Management, and more.

Although CoOL does not provide a text-only version, the site is not graphics intensive. Content appears to be emphasized over appearance.

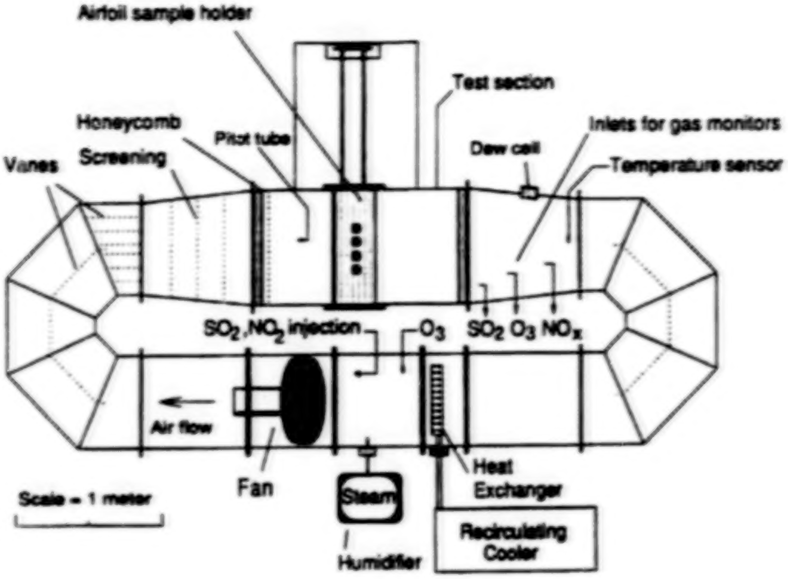
Preserve/Net
Welcome!

Preserve/Net
http://www.preservenet.cornell.edu/preserve.html

Based at **Cornell University**, **Preserve/Net** was co-developed by **Michael Tomlan** and **Robert Pick** and is maintained by **Robert Pick**. It is designed for users interested in historic preservation. The site is divided into two primary sections - Preserve/Net Information Service and Preserve/Net Law Service. The Information Service provides job postings, conference announcements and links to other resources in twenty four different subject areas. This extensive list of categories includes American History, Archeology, Architecture and Landscape Architecture, Archives, Libraries, Urban Planning, and more. The Preservation Education Directory, which contains information about preservation education programs in the United States and Canada, is located here.

The Law Service is designed to help lawyers, activists, and owners "in understanding the law as it relates to preservation." A link to the Legal Information Institute at Cornell provides access to the full United States Code. Text of legislation, discussions of court cases and models for preservation ordinances, constitutional amendments, and enforcement provisions are available in the Preserve/Net Law Service.

All three of these World Wide Web sites are excellent resources for either the lay person with an interest in archeology, conservation, or architectural preservation or for the professional preservationist. Each solicits input from users and provides tools to search for topics of interest. As with most Internet resources, these sites change and grow constantly. The only way to fully appreciate the huge amount of information available is to start your browser and explore.



A diagram showing the components of the NCPTT Environmental Exposure Chamber.

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NCPTT Environmental Chamber Facility

Northwestern State University and the Center are working together to develop the new NCPTT Environmental Chamber facility. The new research facility will be located at the Center's current headquarters in South Hall on NSU's campus. The large lab space will be the new home to the **Materials Research Programs Environmental Exposure Chamber**. This chamber has previously been used by **Elliott Spiker** at the United States Geological Survey in Reston, Virginia, to carry out the Program's studies on deposition rates of sulfur dioxide on marble and limestone surfaces. Completion of the laboratory space and relocation of the chamber are slated for June, 1996. This summer the NCPTT Materials Research Fellow, **ElizaBeth Bede**, will be studying the deposition of sulfur dioxide on stone samples that have undergone various conservation treatments. For more information contact Mary Striegel.

Internet Resources Guide

Internet Resources for Heritage Conservation, Historic Preservation, and Archeology, also known informally as the IRG, is an annotated listing of Internet resources of interest to the preservation community. The original IRG was created by **Peter Stott**, Telecommunications Chair of the **US Committee, International Council on Monuments and Sites (US/ICOMOS)**. It was distributed in January 1994 through the Clearinghouse of Subject-Oriented Internet Resource Guides, which was maintained in a gopher at the University of Michigan. Peter has continued to maintain and update the Guide on a regular basis with new Internet sites. The document has, until recently, been available both through the Clearinghouse and via the ICOMOS World Wide Web page.

In September of 1995, Peter transferred responsibility for maintaining and updating the IRG to the Center and it was posted on the Center's gopher. Since the Center had no World Wide Web page at that time, Peter graciously agreed to continue to update the Web version on the ICOMOS page. Not long ago, when the Center's own World Wide Web page (http://www.cr.nps.gov/ncptt/) went online, the Center took full responsibility for the IRG. It is now available both through the Center's Web page and the Center's gopher. Via the Web page, either click on "Internet Resources for Heritage Conservation, Historic Preservation, and Archeology" or access it directly via http://www.cr.nps.gov/ncptt/irg/. In the gopher select "Jobs, Conferences,...", then "Directories", then "Internet Resources for Heritage Conservation, Historic Preservation, and Archeology". Or go directly to the gopher version via gopher://gopher.ncptt.nps.gov/directories/irg.txt.

The IRG is intended as a guide to "surfing" the 'Net for preservation related information and includes Gopher and WWW Servers, electronic journals, listservs, usenet newsgroups, indices and databases, library catalogs, FTP sites, and fee-based services. The Gopher and WWW Servers are organized into International Organizations, National Agencies, Architectural Preservation, Planning and Sustainability, Archeology, Historical Societies & SHPOs & State Archaeologists, Museums & Conservation, Research, and Miscellaneous. Future plans for the IRG include enhanced graphics and expansion and reorganization of the categories.

The Center would like to thank Peter Stott for his assistance in transferring the IRG to the Center and for his generosity in offering this valuable document to the Center.

Preservation Weekend

Austin, Texas

April 19-21

A **Preservation Weekend** for owners and managers of historic properties was held April 19-21 in Austin, Texas. Sponsors for the event were **Texas Historical Foundation**, **Texas Historical Commission**, **Historic Preservation Program** at the **University of Texas Austin** and the National Center. Over 40 preservationists from Austin, San Antonio and other Central Texas cities and towns attended.

Weekend activities began on Friday evening with a reception in Battle Hall Library at the University of Texas. Keynote speaker **John Robbins** provided a presentation entitled "Historic Preservation: Broadening our Perspective." Saturday morning speakers included **Wayne Bell**, **Professor Emeritus of Architecture** at the **University of Texas at Austin**, on the architecture heritage of Texas; **Stan Graves**, **Director of the Department of Architecture** with the **Texas Historical Commission**, on the Commission's programs for homeowners; **Ann McGlone**, **Historic Preservation Officer** in the **San Antonio Preservation Office**, on benefits and responsibilities of owning properties in historic districts; and **Dudley Dobie** on financing restoration of the **J.F. Dobie House** in Austin.

Crafts demonstrations were scheduled during the afternoon sessions. Demonstration included **John Volz**, Volz and Associates, Architects, on building investigation; **Judith Jacob**, architectural conservator with the National Park Service, on paints and coatings; **Mike Farmer**, University of Texas, School of Architecture, on woodwork; **Jim Zollo**, Zollo Studios, on stained and leaded glass; **Lars Stanley**, Lars Stanley Architects on metals; **Kevin Jolly**, Texas Historical Commission on computers in preservation; and **James and Nathan Roppolo**, A-Tex Waterproofing on masonry repair.

Preservation Weekend, Austin, Texas, April 1996.

On Saturday evening participants were guests of the **Charles Moore Foundation**. Following a brief presentation by curator **Kevin Keim**, on Moore's work, participants toured the house, transformed by Moore from "a very ordinary, existing dwelling into a place of spirited habitation" following his arrival in Austin in 1984.

Sunday morning's tour of the Moore Hancock Farmstead, an early 19th century farmhouse was equally inspiring. Owners **Mike and Karen Collins** shared their experiences with this painstaking restoration effort which began with an archeological investigation, archival research, and oral histories of former residents. Working as a team, Mike and Karen Collins completed nearly all the work on the house themselves.

Our co-sponsors in Austin did an excellent job in planning and organizing the Preservation Weekend. We hope to repeat the success of this event — our first Preservation Weekend — in other locations.

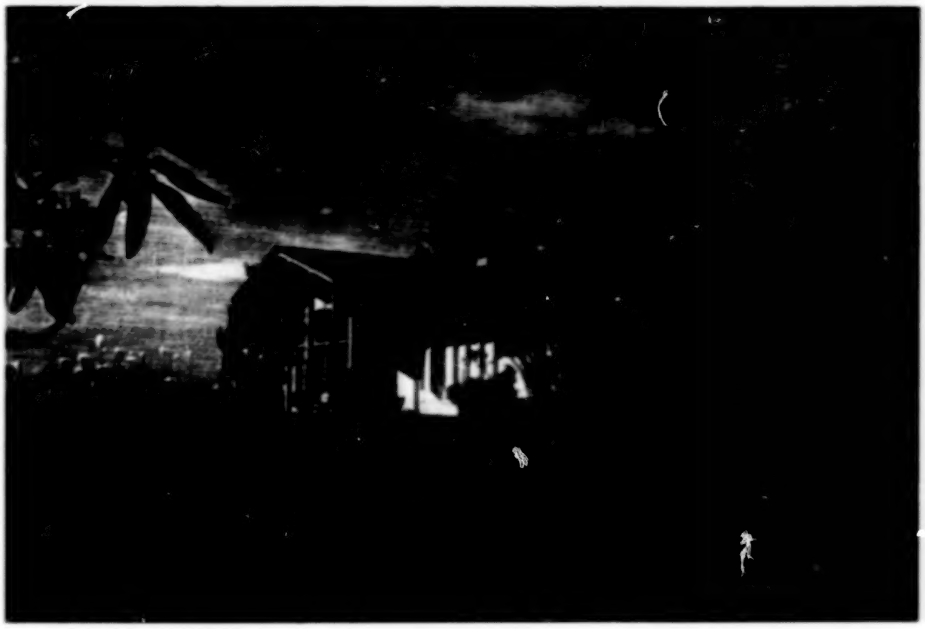
Diagnosing Moisture in Historic Buildings

Washington, DC

May 6-8

Fran Gale attended the **Diagnosing Moisture in Historic Buildings** symposium in Washington, May 6-8. Co-sponsors of the event were the **National Park Service**, the **Washington Chapter of the Association for Preservation Technology**, **Friends of Meridian Hill**, and **Friends of Great Falls Tavern**. Funded through the Center's PTTGrants Program, the symposium focused on diagnosing sources of moisture in historic buildings including ground moisture, moisture penetrating building envelopes and moisture generated inside the building by climate control systems. Approximately sixty preservation practitioners attended the symposium, including architects, engineers, and architectural conservators.

Opening presentations focused on the dynamics of moisture, differentiating between sources of moisture through systematic diagnosis, and establishing methodologies for identifying problems. The first day's afternoon session included field work at **Meridian Hill Park**, a circa 1916 park that is one of the most distinguished examples of landscape design in Washington. Symposium participants investigated moisture damage to exposed aggregate concrete of the Park's architectural elements.



Watzek House, Portland, Oregon.

On the second day, presentations concentrated on understanding the building envelope and the movement of moisture through walls. A case study on James Madison's home at Montpelier, Virginia, was used to illustrate how proper diagnosis can lead to appropriate remediation. During the afternoon session participants visited Great Falls Tavern on the C&O Canal in Maryland where instruments for monitoring moisture were demonstrated.

Final day sessions were at Gunston Hall, colonial plantation home of George Mason on the Potomac River in Virginia. Presentations focused on how HVAC systems change moisture dynamics. Participants discussed managing moisture in house museums where care of the building as well as its contents must be addressed. During a tour of Gunston Hall participants surveyed existing conditions and reveiwed monitoring data collected at the site.

During this three-day symposium, visits to historic sites provided an opportunity for participants to learn about sources of moisture affecting buildings, how to manage moisture movement and about state-of-art equipment used to diagnose moisture problems. In addition the preservation practitioners attending the symposium were able to discuss issues and potential solutions. Diagnosing Moisture in Historic Buildings will be a model for future workshops held in other locations. The curriculum and workbook for the symposium will be modified based on comments by participants and will be available from the Center to persons and organizations interested in planning future events.

PTTBoard Meeting
Portland, Oregon
April 22-25

Portland, Oregon, was the setting for the Spring 1996 meeting of the **Preservation Technology and Training Board.** The meeting was hosted by the **Historic Preservation League of Oregon**, the **University of Oregon's School of Architecture and Allied Arts** and the **Oregon History Center**. In addition to working sessions to discuss Center activities and issues, PTTBoard members and Center staff attended several events planned by our hosts.

On April 23, **Jonathan L. Doherty, Executive Director of the Columbia River Gorge Commission**, provided a public lecture at the Oregon History Center on the Columbia River Gorge as a cultural landscape. Doherty used the Columbia River Gorge as a case study for conservation and preservation methodologies. An edited version of Doherty's lecture is included with this edition of *Notes*.

PTTBoard members and Center staff visited the Watzek House on April 24. Designed by John Yeon in 1936, the house is an outstanding example of modern design and is listed on the National Register. Current owner Richard Brown provided a tour of this remarkable structure. The Watzek House is a recent gift to the University of Oregon's School of Architecture and Allied Arts from the John Yeon Trust and Brown.

Society for American Archaeology
New Orleans
April 10-14

Mark Gilberg and **Mary Carroll** attended the **61st Annual Meeting of the Society for American Archaeology** in New Orleans. The conference was attended by nearly 3000 archeologists and consisted of almost 200 concurrent sessions. Pre-conference activities included the NPS Archeology and Ethnology Information Management Meeting organized by **Francis McManamon, Chief of Archeology and Ethnology Program**, a session that was highlighted by a presentation and question-and-answer session with **NPS Director Roger Kennedy**. Featured sessions included the Opening Session organized by **Vincas P. Steponaitas** (University of North Carolina) and **Francis McManamon** entitled *Ancient Monuments of the Lower Mississippi Valley*, the Plenary Session organized by **Norman Yoffee** (University of Michigan) and entitled *Appropriate Theory in Archaeological Investigations*, and the Public Session developed by the SAA Public Education Committee and titled *Time Travel with Archeology*. Workshops offered ranged from 1 ½ hour session on *Internet 101: Digging the World Wide Web* to 2 ½ day session on the *Native American Graves Protection and Repatriation Act*. Nearly 60 exhibit booths featured the latest archeological equipment, technology, publications, services and resources.

The NCPTT was one of four sponsors of the Internet Access Center which allowed the attendees to explore the World Wide Web and to have access to e-mail. The Center also maintained an exhibitor booth in cooperation with colleagues from other National Park Service offices and Parks Canada. Mark Gilberg attended the *Rock Art Site Management and Conservation* workshop (sponsored by the American Rock Art Research Association) and Mary Carroll attended *GIS for Personal Computers: A Hands-On Workshop* taught by **Kenneth L. Kvamme** (Boston University). Two workshops were sponsored in part by the Center — *Agent-Based Modeling of Prehistoric Settlement Behavior in the Four Corners Area* organized by **Timothy A. Kohler**, and *Residue Analysis: How You Can Do it and How Much it Will Cost* organized by **Noreen Tuross**.

Diagnosing Moisture in Buildings, Gunston Hall, May 1996.

Conserving Outdoor Sculpture

Little Rock, Arkansas

April 26-27

The **Arkansas Historic Preservation Program** hosted a workshop on conserving outdoor sculpture April 26-27 in Little Rock. **Mary Striegel** and **Fran Gale** were instructors for the workshop. Geared toward owners of outdoor sculpture, cemetery associations, sculptors and conservators, the workshop was sponsored in part by ***Save Outdoor Sculpture!***, a national inventory and public awareness project co-sponsored by the **National Museum of American Art**, **Smithsonian Institution**, and the National Institute for the Conservation **of Cultural Property**.

Presentations on "Assessing Conditions of Outdoor Sculpture" on Friday night were part of the Arkansas Arts Center's "Evening with the Arts" and were open to the public. On Saturday, the "mobile" workshop began with a survey of outdoor metal sculpture at the Arkansas Arts Center. Mary Striegel led the discussion on sources of deterioration affecting metals, resulting conditions, and conservation and maintenance procedures.

The afternoon session took place at **Mount Holly Cemetery**, a four-square block area established as a city cemetery in 1843. Listed on the National Register of Historic Places, Mount Holly contains grave markers of exceptional quality. Following **Mrs. George Rose Smith's** presentation on Mount Holly's history, Fran Gale helped participants assess conditions of numerous gravestones and monuments. At the conclusion of the cemetery tour, the participants discussed setting priorities given the limited funds available for restoration work.

THE NEAR FUTURE

Deep-Water Shipwreck Assessment: Partnerships and Technologies

Kellogg Center, Michigan State University

June 7-8

This conference is being coordinated by the **Center for Maritime and Underwater Resource Management** at Michigan. Participation in the conference is by invitation only. The conference is part of a program funded by the **Michigan Sea Grant College Program** and the **National Oceanic and Atmospheric Association** and involves **Michigan State University**, **Woods Hole Oceanographic Institution Marine Policy Center**, and the **University of Michigan Department of Naval Architecture and Marine Engineering**. The purposes of the conference are to improve awareness and understanding of the different objectives, methods and technologies used in shipwreck assessment and management; enhance technologies for shipwreck assessment; and develop collaborative approaches among professionals and public and private organizations in shipwreck research, use and management.

For further information contact Ken Vrana, at 517/353-9735, or vranaken@pilot.msu.edu.

The 24th Annual Meeting of the American Institute for Conservation of Historic and Artistic Works (AIC)

Norfolk, Virginia

June 11-16

The main theme of this year's AIC meeting is collaboration in the visual arts. More than 125 papers will be presented at the meeting on this topic and others, including digital imaging for conservation and environmental standards and the role of the conservator. The meeting will include specialty group sessions and a poster session. Specialty group sessions will focus on recent conservation projects in architecture, book

Conserving Outdoor Sculpture, Little Rock, Arkansas, April 1996.

and paper, photographic materials, objects and sculpture, paintings, textiles, and wooden artifacts.

A preconference workshop, **Preservation of Collections: Assessment, Evaluation, and Mitigation Strategies**, will be held on June 10-11. The workshop will acquaint curators, registrars, conservators, preservation librarians, collections managers, collections care specialists, and archivists with topics such as preservation needs for small and large museums, environmental standards, mitigation of the effects of shock and vibration, and monitoring of contaminants. For more information on the meeting or preconference workshop, contact the AIC, 202/ 452-9545.

Conservation and Replication of Decorative Finishes

Natchitoches

June 29-July 1

Historic Windsor plans to offer **Conservation and Replication of Decorative Finishes** in Natchitoches during June. **Mary Lou Davis** is the instructor for Decorative Finishes, a three-day workshop for professional painters, maintenance personnel, architects and contractors. Topics covered in the workshop include documenting, conserving and replicating decorative finishes. In addition to classroom lectures, the workshop will provide hands-on training in creating faux finishes such as graining and marbling. For more information contact Judy Hayward, Historic Windsor, 802/674-6752.

Preserving Our Endangered Past: A Series of Workshops

Pawtucket, Rhode Island

June 25

A series of day-long workshops in preservation and conservation of buildings, textiles, furniture, photographs, and paper will be held at **Slater Mill Historic Site** in Pawtucket, Rhode Island. The workshop series was funded through the PTTGrants Program. Designed for museum professionals and volunteers working in small museums or historical societies and for owners of historic properties, these workshops will offer low-tech and low-cost solutions to a variety of preservation problems. Recognized experts from the southern New England area will provide informative lectures, hands-on demonstrations, and helpful reference guides. Participants are encouraged to discuss their own conservation needs.

The goal of the workshop series is to forge links between southern New England's professional conservators and the stewards of its many historic treasures. Because few small museums have the benefit of in-house conservators, these workshops are designed to supply professional support and training. The first workshop on Building Conservation was April 30; Textile Conservation was May 21; and Furniture/ Photographs/Paper Conservation will be June 25. For more information contact Jeanne Zavada or Briann Greenfield at Slater Mill Historic Site, 401/725-8638.

Preservation Education Skills for Building Trades Teachers

Burlington, Vermont

July 8-12

Preservation Education Skills for Building Trades Teachers also was funded through the PTTGrants program. This week long pilot course will explore methods for integrating hands-on building conservation and historic preservation instruction into building trades curricula. Developed by the **University of Vermont's Historic Preservation Program** and **Historic Windsor, Inc.**, the course will be held in Burlington at the **Historic Preservation Summer Institute**.

In addition to studying preservation philosophies, standards, strategies, and conservation techniques, participants will examine how these instructional programs can be implemented. Designed for high school and post-secondary building trades instructors, as well as other teachers interested in historic preservation, this three credit course is intended to meet continuing education requirements for teacher certification. This limited enrollment week-long course is scheduled for July 8-12. For more information contact Tom Visser at University of Vermont Historic Preservation Program, 802/656-0577.

Saving Historic Architecture and Antiques

Natchitoches and other locations

July 18 and other dates

The National Park Service is sponsoring a series of one-day workshops to assist

preservation efforts in the Lower Mississippi Delta region. Beginning in June, each workshop will include a morning session on architectural preservation and an afternoon session on caring for antiques and museum objects. Workshops are scheduled at historic sites in Vicksburg, Mississippi; Pine Bluff, Arkansas; Cape Girardeau, Missouri; Marion, Illinois; Paducah, Kentucky; and Memphis, Tennessee. The final workshop of the series will be July 18 in Natchitoches. Instructors will include NPS personnel as well as state and local historical architects. Each workshop will include a tour of the host institution. For additional information, contact Kathleen Jenkins at Natchez National Historical Park, 601/446-5790.

LA-ASLA annual meeting

Natchitoches, Louisiana
September 20-22

Natchitoches and Natchitoches Parish will be the setting for the 1996 annual meeting of the **Louisiana chapter of the American Society of Landscape Architects**. A focus of the meeting will be landscapes as cultural resources, with an in-progress comprehensive plan for Natchitoches' National Landmark historic district as a case study. **NCPTT** is pleased to work with LA-ASLA on this important meeting.

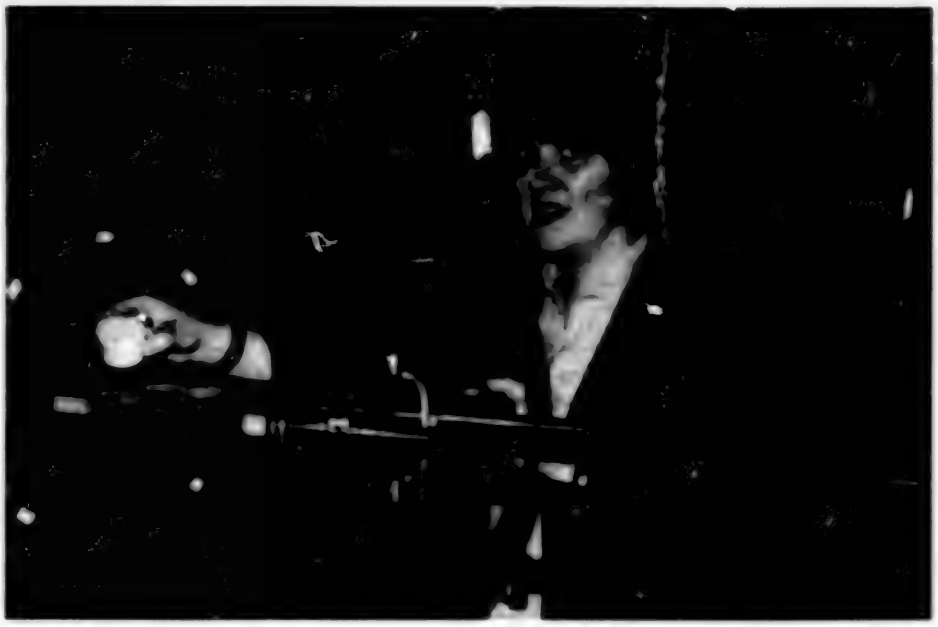
Louisiana and out-of-state participants are invited. For more information, contact Chad Danos, 318/445-2825.

AIA/HRC-AIC/ASG meeting

Alexandria and Natchitoches, Louisiana
October 31-November 3

The **Architecture Specialty Group** of the **American Institute for Conservation of Historic and Artistic Works** will join the **American Institute of Architects' Historic Resources Committee** in a Fall meeting in north Louisiana. The theme is ***Architects & Conservators: Preserving the Past and Building the Future***. The meeting will focus on the roles of preservation architects, architectural conservators, and preservation and conservation technologies. **NCPTT** is a meeting co-sponsor along with **AIA/Louisiana**.

Presentations by architectural conservators will be selected by a **call for abstracts**, with proposals due **June 17**. For more information on the meeting or on submitting abstracts, contact David Roccosalva, director, AIA/HRC, 202/626-7418.



NCPTT Research Fellow, ElizaBeth Bede, with the Environmental Exposure Chamber, March 1996. Bede will begin research at the Center in July.

Culture Shock: Fire Protection for Historic and Cultural Property

PTTGrants Video

Boston University is completing a video on fire protection for cultural properties. Funded through the PTTGrants program, this 22-minute video demonstrates the vulnerability of historic structures to fire. Professionals from the fire protection and cultural communities were involved in its planning.

The video provides a general description of how fire protection and detection devices work with actual footage of sprinkler heads, water mist systems and gaseous agent systems during activation. Technical information about the water discharge quantities of sprinkler systems, the use of water mist systems, and Halon replacements is included; the final portion of the video, which shows footage of institutions with properly installed adequate systems, helps to dispel the belief that fire protection equipment is aesthetically unappealing or intrusive in historic properties. Copies of the video soon will be available. For additional information, contact Preservation Studies Program at Boston University, 617/252-2948, or Fran Gale, 318/357-6464.

Investing in the Past

Woodville, Mississippi

Through funding provided by the PTTGrants Program, the Wilkinson County Museum is developing a one-day seminar tentatively scheduled for September 21 in Woodville, Mississippi. Intended for an audience of historic property owners, "Investing in the Past" will promote stewardship of historic buildings and collections and will provide an overview of preservation methodologies and strategies. In addition, participants will become informed consumers when professional preservation services are required. This PTTGrants project will produce a course outline with supportive materials that will be suitable for seminars held in other locations. For more information contact Marsha Oates, Hopkins & Associates, 901/278-5186, or mroates@aol.com.

Notes from the Center

June 1996

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Corrections

May 1996 issue of *Notes* was incorrectly marked as issue 10. It should have been identified as issue 11.

Line illustrations from that issue should have been attributed to 1922 drawings of the Women's Gymnasium by Favrot & Livaudais.

Notes from the Center is published by the National Park Service's National Center for Preservation Technology and Training.

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The ***National Center for Preservation Technology and Training*** *promotes and enhances the preservation of historic resources in the United States for present and future generations through the advancement and dissemination of preservation technology and training.*

The Center, created by Congress, is an interdisciplinary effort by the ***National Park Service*** *to advance the art, craft and science of historic preservation in the fields of* ***archeology, historic architecture, historic landscapes, objects and materials conservation,*** *and* ***interpretation.*** *The Center serves public and private practitioners through research, education and information management.*

— ***NCPTT mission statement,*** *adopted at the Fall 1995 meeting of the* ***Preservation Technology and Training Board***

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CULTURAL LANDSCAPE STEWARDSHIP

THE GORGE OF THE COLUMBIA RIVER

Jonathan L. Doherty

Portland, Oregon was the setting for the **Preservation Technology and Training Board***'s Spring 1996 meeting. The meeting was hosted by the* **Historic Preservation League of Oregon, University of Oregon's School of Architecture and Allied Arts** *and the* **Oregon History Center**. *As part of the meeting, a public lecture by* **Jonathan L. Doherty,** *Executive Director of the Columbia River Gorge Commission, was the evening event on April 23.*

Managing major cultural landscapes is a topic of national importance. The PTTBoard lecture on the Columbia River Gorge is a review of stewardship methodologies in a major cultural landscape that may serve as a "case study" for other heritage areas. Because this topic increasingly concerns the preservation community throughout the United States, the following edited version of Mr. Doherty's presentation is included in this edition of Notes.

– **Elizabeth Lyon,** *PTTBoard Chair*

We meet here this evening in the Oregon History Center, an institution housing many of the most important resources for understanding the character of Oregon and the broader region. I would guess that a reasonable percentage of the museum's collections deal in some way with the landscape that I am going to discuss with you tonight — a landscape of great beauty and nationally recognized significance, a landscape that begins just a twenty minute drive to the east:

the gorge of the Columbia River

In speaking to you tonight, I have a challenge — to place the Columbia River Gorge in a context meaningful to those from afar. I also hope to use this lecture as an opportunity to highlight cultural resource management issues that are of immediate importance to Oregonians and Washingtonians.

My goal is fourfold —

First, to give you a feeling for the significance of the Columbia River Gorge and to help you see it as a cultural resource with a unique and recognizable identity and sense of place.

Second, to describe what has resulted from this significance in terms of developing a mechanism for sustaining the Gorge over time.

Third, to set the Gorge in a context that makes its achievements and issues recognizable at both a national and a regional level. In other words, to tie it both to the broader national pattern of similar actions at other places and to the resolution of a regional problem in a regional manner.

Last — to foreshadow the future, with both its challenges and opportunities.

I The Place

I expect that many of you, particularly members of the Preservation Technology and Training Board, come to your work or interest in matters such as this topic from an historic preservation perspective. Let me start this discussion in that context and then expand it.

Historic preservation and the museum fields have typically, but not exclusively, focused on conserving the built environment and traces of the physical products of human beings. In recent years, that focus has expanded to include additional aspects of the environment — and some credit for that expansion certainly belongs with Robert Melnick and his work on rural historic districts. My focus this evening is a large landscape that is a cultural resource in and of itself — all 300,000 acres. Of course, it also contains many individual, more traditional historic or archeological resources.

The Columbia River Gorge has been treasured through time, for various reasons and by at least two distinct cultures. As you will see, that valuation has resulted in vivid efforts to use the Gorge, to design for it, and to conserve it. In the simplest definitions of the terms, isn't that a cultural resource?

What is the Gorge? I am not usually one to begin a landscape description with a geological event — but in this case it is required. It sets the stage.

Visualize a map of the northwestern United States, including Montana, and parts of Canada. Imagine an Ice Age lake, covering about 3,000 square miles, behind a glacial ice dam. About 15,000 years ago, Glacial Lake Missoula broke through that ice dam at a rate of 9 ½ cubic miles of water per hour racing through eastern Washington and the ancestral Columbia River. It stripped rock and soil away in the Gorge up to 1000 feet above the current river, and flooded all of the Willamette Valley, including Portland. The Missoula floods produced the basic substrate of the Gorge.

The Gorge is now generally recognized as spanning an 85-mile long corridor from the Sandy River on the west to the Deschutes River in the east. The Gorge is the only sea-level passage through the Cascades and the only major water route on the west coast that extends to the continental interior. Ice age floods resulted in the hanging stream valleys and sheer walls of the Gorge. Continued erosion has created side gorges and other natural features, producing a landscape of sheer beauty and diversity unusual in such a short corridor.

The east-west orientation of the Gorge and changes in elevation are primary reasons for this diversity. West of the Cascades, rainfall is high – up to 85 inches per year – producing densely forested slopes; in the east Gorge, precipitation drops off rapidly leaving drier oak woodlands and grasslands with only 13 inches of rain annually.

Human use of the Gorge is believed to date back 10,000 years, much of it tied to the once vast salmon resources of the river. Celilo Falls, a premier fishing site about 100 miles to our east, was a gathering point for tribal peoples until it was flooded by The Dalles Dam in the 1950s. Archeological sites and pictographs attest to early habitation. Yakima, Warm Springs, Nez Perce and Umatilla Tribes retain fishing and other rights in the Gorge under the treaties of 1855 and have a visible presence in the area today.

As the Gorge was settled by easterners, resource-based industries – timber and agriculture – dramatically influenced the landscape. Among these two major land use patterns lie the thirteen communities of the Gorge, with populations ranging from several hundred to 12,000.

This beautiful region has attracted visitors since early in this century. Spectacular waterfalls – more than 73 – became some of the features highlighted through early tourist development and the remarkable design of the Columbia River Highway. Sam Hill, often called the "father of the highway", said, "We will cash in, year after year, on our crop of scenic beauty, without depleting it in any way." Samuel Lancaster, designer of the road, viewed his charge to "have sense enough to do the thing in the right way, so as not to mar what God had put there." Today, the Highway is a National Register district and always ranked as one of the top scenic roadways in our nation – still leading visitors to Multnomah Falls and Vista House at Crown Point, two of the most frequently visited places in the Pacific Northwest.

You begin to see that this place -- the Gorge – has been valued throughout its human history. Why? Pragmatism, economics, aesthetics, recreation, spirit . . . There is a sense of place here, for both residents and outsiders.

2 Stewardship

The value of this landscape has led to a long-running concern about the future of the Columbia River Gorge. Each generation since Hill and Lancaster's careful design of the Columbia River Highway has expressed the need for stewardship of the Gorge.

A 1937 Pacific Northwest Regional Planning Commission report states –

> *The important changes confronting the area at the present time through public works entail, in the near future, physical modifications which will be more extensive in effect than the combination of all that has previously occurred in the Columbia Gorge. This rapid acceleration of activity precipitates a crisis in the destiny of the area, in which the perishable natural values of a phenomenal region would, under ordinary circumstances, have no protection comparable in authority or scope to the various forces which endanger them.*

In the 1930s, both Oregon and Washington created separate Columbia River Gorge commissions and directed them to consider boundaries, planning and actions to create a bi-State recreational area. By the 1970s, a resource management program had been prepared to provide guidance on compatible development. But the suggestions that resulted from these efforts remained solely suggestions.

In 1979, the National Park Service studied alternatives for protecting the Gorge. Finding the area to be nationally significant, NPS outlined choices ranging from the *status quo* to a new multi-governmental approach to Federal management of a core area of the Gorge.

By the 1980s, the stage had been set. With increasing concerns about development pressures from the growing Portland/Vancouver metropolitan area, and about the adequacy of local zoning, a solution was needed.

A solution arrived in 1986 and 1987 with passage of the **Columbia River Gorge National Scenic Area Act** by Congress and the **Columbia River Gorge Compact** by the Oregon and Washington State legislatures. These documents comprise a regional strategy for conserving the treasured Gorge landscape, incorporating various regional compromises.

What is the conservation strategy for this cultural landscape?

The strategy is founded upon interlocking State and Federal statutes that ensure both regional planning and implementation effected in seven collaborative undertakings: (1) creating a Scenic Area boundary encompassing the 85-mile corridor and almost 300,000 acres, and setting urban growth boundaries for 13 communities within the Scenic Area; (2) establishing a single bi-State **Columbia River Gorge Commission** with statutory responsibility for regional planning, implementation, enforcement, appellate review, and diverse cooperative activities; (3) designating the US Forest Service as a key Federal partner to provide assistance and acquire and manage Federal lands, including many of the most sensitive areas; (4) preparing inventories of scenic, natural, cultural and recreational resources, land use and economic opportunities; (5) preparing a comprehensive management plan that identifies land use designations and guidelines for development; (6) implementing the comprehensive management plan through county ordinances that are consistent with the plan; (7) securing and providing Federal funds for capital developments and for grants and loans as incentives for county participation.

The goal of this administrative framework is to conserve the Gorge landscape – in particular, to protect and enhance the scenic, natural, cultural and recreational resources of the Gorge and to encourage economic development in existing urban areas.

Today, ordinances implementing this approach are in effect throughout the Gorge outside of the thirteen exempted urban areas. Three counties administer their own ordinances and three are administered by the Gorge Commission.

Development controls in these ordinances have brought a measure of protection for the Gorge's valuable resources. More than 75,000 acres of agricultural land are protected from development other than farm, orchard and range uses. More than 60,000 acres of forest land are reserved for forestry uses. Over 450 known prehistoric and historic sites are protected from adverse impacts. Forty-five natural areas and another 150 recorded sensitive plant sites are preserved. Streams, wetlands and wildlife habitats are maintained. And the Gorge's unparalleled scenic vistas are protected through development guidelines and limits on density. In addition, projects are underway to improve and restore outstanding recreational sites along the historic Highway. The $25 million Skamania Lodge Conference Center is a model public/private partnership and a direct product of the Scenic Area Act. Ground-breaking on the Scenic Area interpretive center is set for this Spring.

The Gorge's basic physical fabric – the integrity of the landscape itself – should be sustainable over time. Let me give you two examples that touch on the cultural values of the landscape: first, the appearance and use of the landscape; and second, specific historic or archeological sites.

The characteristic pattern of the Gorge landscape is densely forested western slopes and the drier eastern oak woodlands and grassland. Interspersed in this larger pattern are various types of agriculture. These scenic, sparsely populated areas are what many find so attractive about the Gorge. Land use designations and accompanying minimum parcel sizes will continue these patterns into the future. Orchards in the mid-Gorge, which are typically a minimum of 40- to 60-acre parcels, cannot be subdivided and converted to residential lots; likewise, eastern grasslands suitable for grazing must remain in large acreages in the future. These zoning tools sustain the cultural patterns on the landscape.

But, what about a smaller scale prehistoric, historic or other cultural resource? Unique in the United States, every development proposal in the Gorge goes through a cultural resource survey prior to approval. A land use application comes in; an archeologist goes out. Tribal governments and others are given an opportunity to review and comment on each survey. Where cultural resources would be affected adversely by proposed development, the development proposal must be modified. Since 1986, more than 1,600 development applications have been processed in the Gorge within these guidelines. The great majority of applications have been approved with substantial conditions to protect the cultural, scenic, natural and recreational values of the Gorge.

3 What the Scenic Area Act represents, nationally and regionally

Let me now step back for a moment and describe a larger context for the Gorge. What does the Scenic Area represent, both nationally and regionally?

First, on a national scale –

World-wide, the United States takes the lead for protecting large public landscapes with its tradition of the National Park System. The National Park Service's leadership role, stemming from carving Yellowstones, Grand Canyons and Yosemites out of the public domain, is well recognized.

In recent decades in this country, and a bit earlier in Europe, we recognized that the traditional park approach does not fit our concerns about a different kind of landscape – the working landscape where human interaction is a major component of the sense of place. In the United States, Senator Clifford Case of New Jersey described this different kind of landscape as "too large, too complex, too valuable, too interwoven with the fabric of existing communities to be protected by the Federal government alone or by any existing system of parks, recreation areas, or preserves."

As a result, new resource management approaches have evolved, with each approach varying substantially based on the unique physical, social and political aspects of the landscapes. Among the more prominent major landscapes are the Adirondack Park in New York, the earliest forerunner of this different approach – initiated in 1894 – and the largest at 6 million acres; the Pinelands National Reserve, 1 million acres of New Jersey forest, watershed, wetlands and blueberry and cranberry fields and historic settlements; Lake Tahoe in California and Nevada, under the administration of the Tahoe Regional Planning Agency; the Upper Delaware National Scenic and Recreational River in New York and Pennsylvania; several national heritage corridors, including the Blackstone River Valley in Massachusetts and Rhode Island, the Delaware and Lehigh Canal in Pennsylvania, and the Illinois and Michigan Canal, all of which focus on areas associated with eighteenth or nineteenth century industrial development; and the Columbia River Gorge.

What do these places have in common? Commonalities include recognition of landscapes that are valued for complex cultural attributes, including historic, natural, scenic, recreational and economic resources; efforts to sustain those resources over time through a combination of approaches, tools and techniques, usually coordinated by one key organization; an approach to preservation that is specific to the region, with relatively little similarity among regions; and a similarity of major issues, including growth, economic conditions, traditional land uses, regional planning, natural habitat degradation and restoration, and sustaining cultural traditions.

Clearly, the Columbia River Gorge is a premier example of these complex landscapes. While portions of the Gorge landscape may have closer ties to nearby Mt. Rainier or Crater Lake National Parks, the overall conservation approach has far more in common with England's Lake District or New Jersey's Pinelands.

What is unique about the Gorge among other similar efforts to protect major landscapes? The Gorge is probably stronger than other places on growth management – an approach that is clearly traceable to Oregon's strong land use planning tradition. Public perception of this approach, however, is problematic. To some, the Gorge's protection approach is perceived as a top-down, Federal approach, a perception probably due in part to its designation as a *National* Scenic Area under Federal legislation. But, this view is a bit simplistic. Although impetus for protection came from Oregon and Washington, the Scenic Area Act and its accompanying bi-State legislation, the Columbia River Gorge Compact, were essentially regional compromises by regional leaders and legislators.

Unfortunately, the regional investment in creating the Scenic Area is often too easily forgotten. When this occurs it can skew public perception of the Gorge and undermine the two State legislatures' financial support for the Gorge Commission. But I will come back to this.

As in any approach to a large problem, there are some in the region who felt left out of the process. Some Gorge residents and local officials feel that the Scenic Area serves Portland-area interests. Some of this feeling may pass with time and with the region's ability to invest more people in the solution. Already there seems to be a greater acceptance of Scenic Area goals and methodology than there was in 1986. Many dire predictions have not come true. People see some advantages and local administration of the Scenic Area Act is expanding.

4 Looking ahead

I hope that I have given you a sense of the Gorge, a feeling for the conservation mechanisms in place, and its context as a National Scenic Area.

Let me now address what is most important – the *future* of the Columbia River Gorge. 1996 is an appropriate time for this discussion, for it marks the tenth anniversary of the National Scenic Area. What do the next ten years hold for the Gorge? Or the next five? I believe there are a number of issues, four of which I will highlight.

You recall that the Gorge begins just twenty minutes from Portland – just beyond the powerful force of the Portland/Vancouver metropolitan area – and nothing greater will impact the Gorge than the growth of this area. An increase of 500,000 to 700,000 residents over the next twenty years is predicted, bringing the total Portland/Vancouver metropolitan area population to 2.2 million. Clark County, Washington is the fastest growing county in the State. These numbers dwarf the current population of the Gorge, estimated at about 45,000.

How will the metro area's future affect the Gorge? Without the Scenic Area Act, it is virtually certain that development would overrun portions of the Gorge, altering its basic fabric. But with the National Scenic Area, what will happen?

Firstly, Gorge communities will be under intense pressure. (Remember that preservation of established communities, except for limits on their outer boundaries, is not addressed by the Scenic Area Act.) The communities of Hood River, White Salmon and Bingen are but an hour's drive from Portland; Cascade Locks and Stevenson, just forty minutes. Many people in our nation's larger cities consider this commuting distance. In fact, in other cities, the idea of being able to live in a place as beautiful as the Gorge and commute to downtown would be irresistible. In many eastern cities the sprawl has already gone far beyond reasonable commutes. But not here.

Are Gorge towns destined to become bedroom communities? How will development affect the cultural, social, and physical character of Gorge communities? Why is this important to us?

The thirteen Gorge communities that are home for most Gorge residents have always been tied to the traditional land uses of the area. Dramatic change in the structure of communities can in turn change the viability of traditional land uses and alter the patterns we value so highly today. In addition, physical development in communities can take many forms. Several Gorge communities retain distinctive architecture and character, yet "strip" development is increasing. What are the chances that Gorge communities will preserve their unique character, or will the communities begin to degrade?

Aesthetics, however, is not the only question. There also is the question of economics. The Gorge receives three to four million tourism visitors each year. While it is usually the landscape and recreation that draws them, it is Gorge communities that provide tourist services. Should tourists stop for an inexpensive fast-food meal and move on, or find something in a town worth staying longer – and spend more money?

Heritage tourism is a major economic force in the United States. It just makes good financial sense to maintain a sense of place and heritage in all communities.

Gorge communities and those in other important landscapes need clear visions of what they can be. And they need examples, assistance and investment in ecologically and culturally sustainable development.

A second issue that confronts the Gorge and many, many other special landscapes is stewardship and whether we have the ability to foster a deep sense of landscape stewardship in each resident, visitor, community leader and politician – a sense of stewardship that involves making decisions and taking actions with the long-term conservation of the Gorge landscape in mind.

Today, in the Gorge, we rely on a regulatory approach to maintain the character of the landscape. While rules set the parameters of what is allowed, rules do not necessarily change attitudes or foster understanding. Arguably, if Gorge residents and visitors made every decision based on long-term stewardship, there would be little need for rules. A bit utopian perhaps, but we are much too far from that now, and at a bad time. In a political environment that questions governments' roles, regulation to protect the environment is limelighted. This heightens the importance of fostering local stewardship.

The Gorge requires greater understanding, recognition, and stewardship tools at all levels of management. This includes incorporating stewardship ideals into school curricula, providing landowners and developers with technical assistance, helping to create volunteer stewardship agreements among landowners or groups, informing legislators of viable options and needs for long-term conservation, acquisition of key sensitive lands for conservation purposes, and more.

Other landscapes have various aspects of these tools in place. Impressive among them is the program of Lake District National Park in England. The National Park Authority provides technical assistance and coordinates grants for addressing all key landscape features – woodlands, hedgerows, meadow, lakes and streams, archeological sites, stone walls, buildings and others. Some locations use a real estate transfer tax to fund stewardship, education or acquisition programs. Special license plate sales fund other programs.

Without a stewardship ethic, the Gorge always will be subject to politics and short-term thinking, regardless of the tightness of the rules. Fostering the stewardship ethic must begin now.

A third issue confronting the Gorge concerns our ability to understand and evaluate how we are faring. Is the Scenic Act working? Are the rules that are in place accomplishing their objectives? What is a real issue versus a misperception?

The Gorge Commission is responsible for monitoring the Scenic Area and then using the information gathered for making policy changes necessary to sustain the cultural landscape over time. Unfortunately, ten years into implementing the Scenic Area Act, and almost five years since adoption of the Gorge Management Plan, a comprehensive monitoring program still is not in place. And the fact that it is not in place is simply a matter of resources.

So how are we faring? Despite the best of planning, plans are not always on target and times change. Today's trends and issues are not the same trends and issues of ten years ago. The Commission, as the body that sets regional policy, needs to base corrections and new initiatives on our best data, not on assumption or anecdote. The Commission is developing the outlines of a monitoring program to provide this information. The next step is to fund and implement a monitoring program as rapidly as possible. Surely the same is true for other landscapes.

The fourth and final issue I wish to present is the matter of resources – to which I have alluded previously. I will be brief and blunt: Inadequate funding for the Gorge Commission is now threatening the success and future of the Scenic Area Act.

By law, the Commission's funding is divided equally between the States of Oregon and Washington. Each currently pays approximately $275,000 per year for protecting the Scenic Area through the Commission, about six cents for each citizen of the States. This budget is approximately 1/5th the size of comparable agencies at Pinelands or Lake Tahoe, and provides for a staff about 1/6th the size of staffs for comparable areas.

None of the issues or initiatives that I have discussed is funded. We need to make a concerted effort to find funding for functions that are essential to making the Scenic Area work.

5 Conclusion

Let me distill my discussion. The Gorge is a compelling cultural landscape of great diversity. Concern over its future is long-standing. Mechanisms put into place to safeguard its character into the future represent one model among several others. Despite the mechanisms, the Gorge and other major cultural landscapes face important short- and long-term issues and challenges.

I believe these issues are a challenge to all of you who care about the landscapes of Oregon, Washington and our nation. What is the future of the nation's special landscapes?

On one hand, communities across our nation are becoming increasingly homogeneous – an effect characterized by the loss of regional architecture and native species – and there is a disturbing and powerful opposition to many attempts to conserve "environmental" aspects of special places. On the other hand, there appears to be a growing or continuing sensibility towards land and community. Polls of Oregonians regularly show that the quality of life that the State's landscape affords is a primary reason for being here.

Those of us who care about these special landscapes – about a sense of place, about the character of the people and the land – must see the Gorge, and other important places, into the future. We must foster the sensibility of stewardship at all levels and all times. And our ability – or inability – to do so in a place like the Gorge will be an indicator of our resolve to confront potentially larger environmental challenges of the next century.

***Jonathan L. Doherty** is Executive Director of the Columbia River Gorge Commission, a bi-State agency that administers the Columbia River Gorge National Scenic Area. Mr. Doherty joined the Commission in 1992. Previously, he directed the National Park Service planning program for parks and other special landscapes in a five-state region. Much of his work focused on cultural landscapes, including efforts at Gettysburg, George Washington's Birthplace, and a number of heritage area projects. Mr. Doherty has a Master of Regional Planning degree from the University of Pennsylvania.*

For more information on this topic, contact the Columbia River Gorge Commission, POB 730, White Salmon, WA 98672, telephone 509/493-3323.

Illustration, page i: Detail of map 1013 (circa 1943) from the Map Collection of Northwestern State University of Louisiana, Watson Library, Cammie G. Henry Research Center.

END

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